Summary Table Comparing Default Ingestion Input Parameters for Dust Ingestion		BPRG when issued (2007) current (2020)		
Variable	Description	BPRG 2007	Units 2007	BPRG 2020
k	Dissipation Rate Constant	0	yr^-1	0
SE	Saliva Extraction Factor	0.5	unitless	0.5
FTSSh	Fraction Transferred Surface to Skin - hard surface	0.5	unitless	0.5
FTSSs	Fraction Transferred Surface to Skin - soft surface	0.1	unitless	0.1
EDres	Exposure Duration - Resident	30	yrs	26
EDres-c	Exposure Duration - Resident Child	6	yrs	6
EDres-a	Exposure Duration - Resident Adult	24	yrs	20
EFres	Exposure Frequency - Resident	350	days/yr	350
EFres-c	Exposure Frequency - Resident Child	350	days/yr	350
EFres-a	Exposure Frequency - Resident Adult	350	days/yr	350
ETres	Exposure Time - Resident	24	hr/day	24
ETres-c	Exposure Time - Resident Child	24	hr/day	24
ETres-a	Exposure Time - Resident Adult	24	hr/day	24
ETres-c,h	Exposure Time - Resident Child Hard Surface	6	hr/day	6
ETres-a,h	Exposure Time - Resident Adult Hard Surface	6	hr/day	6
ETres-c,s	Exposure Time - Resident Child Soft Surface	10	hr/day	10
ETres-a,s	Exposure Time - Resident Adult Soft Surface	10	hr/day	10
FQres-c	Frequency of Hand to Mouth - child	9.5	event/hr	17
FQres-a	Frequency of Hand to Mouth - adult	1	event/hr	3
IFDres-adj	Age-Adjusted Resident Dust Ingestion Fraction	3870	cm^2-year/day	3200400
SAres-a	Surface Area of Fingers - Resident Adult	45	cm^2	49
SAres-c	Surface Area of Fingers - Resident Child	15	cm^2	16
tres	Time - resident	30	yr	26
EDiw	Exposure Duration - Indoor Worker	25	yrs	25
EFiw	Exposure Frequency - Indoor Worker	250	days/yr	250
ETiw	Exposure Time - Indoor Worker	8	hr/day	8
FQiw	Frequency of Hand to Mouth - Indoor Worker	1	events/hr	3
SAiw	Surface Area of Fingers - Indoor Worker	45	cm^2	49

Notes: Please see individual comparison tables for references.

and	World Trade Center 2003 benchmarks	EPA OPP Guidance (2012) SOP for Pesticides			California HERO HHRA Gu Evaluating PCBs in S		
Units		OPP Variable	OPP 2020	OPP Units	HERO HHRA Variable	HERO HHRA 2018	Units 2018
yr^-1	0.38						
unitless	0.5	SE	0.48	unitless	fdo	0.04	unitless
unitless	0.5	Fai-hands	0.15	unitless	TE	0.1	unitless
unitless	0.1						
yrs	30						
yrs	6				ED	6	yrs
yrs	24				ED	25	yrs
days/yr	350						
days/yr	350				EF	230	days/yr
days/yr	350				EF	230	days/yr
hr/day	24						
hr/day	24						
hr/day	24						
hr/day	6	ET	2	hr/day			
hr/day	6						
hr/day	10	ET	4	hr/day			
hr/day	10						
event/hr	9.5	Freq_HtM	20	event/hr	CF	6	events/day
event/hr	1				CF	6	events/day
cm^2					Intake Factor	0.014	cm^2/kg-day
					Intake Factor	0.044	cm^2/kg-day
cm^2	45				CA	372	cm^2/event
cm^2	15				CA	647	cm^2/event
yr	30	SAH	150	cm^2			
yrs							
days/yr							
hr/day							
events/hr							
cm^2							
		Fm	0.13	fraction/event			

ıidance (2018) and (2020) Schools in California			DOD CHPPM Guidance (2009) Evaluating Contaminants on Surfaces		
HERO HHRA Variable	HERO HHRA 2020	Units 2020	CHPPM Parameter	CHPPM Value or Equation No.	CHPPM Units
fdo	0.04	unitless	FTsm	0.4	unitless
TE	0.1	unitless	FTss	0.063	unitless
ED	6	yrs			
ED	25	yrs			
EF	230	days/yr			
EF	230	days/yr			
CF	6	events/day			
CF	6	events/day			
Intake Factor	0.014	cm^2/kg-day			
Intake Factor	0.044	cm^2/kg-day			
CA	372	cm^2/event			
CA	647	cm^2/event			
			ED	10	yr
			EF	250	days/yr
			ET	8	hr/day
			EVderm	4	events/day
			EVing	27 (fingertip/nail biting)	events/day
			SA	Forearms: 873 Hands (palmar side): 326	cm^2
			Ff	0.08	unitless
			Fd	Forearm: 1 Hand (palmar side): 0.30	unitless

EPA OEHHA Guidance (2009) Exposure to Meth Lab Residues		
OEHHA Variable	OEHHA 2018	Units 2018
remv_mouth	0.3	unitless
transfer_dermal	0.6 - 8.4	unitless
hm_freq	Range 1-18	event/hr
ingestion_indoor	1	mg/hr
hm_fraction	0.78	unitless
contacth	6	hr^-1

Table Comparing Default Ingestion Ir

BPRG when issued (2007) and current (2020) and World Trade Center 2

Selecting Contaminants of Potential Concer

Variable	Description	WTC 2003	Units 2003	BPRG 2007
EDres	Exposure Duration - Resident	30	yrs	30
EDres-c	Exposure Duration - Resident Child	6	yrs	6
EDres-a	Exposure Duration - Resident Adult	24	yrs	24
EFres	Exposure Frequency - Resident	350	days/yr	350
EFres-c	Exposure Frequency - Resident Child	350	days/yr	350
EFres-a	Exposure Frequency - Resident Adult	350	days/yr	350
ETres	Exposure Time - Resident	24	hr/day	24
ETres-c	Exposure Time - Resident Child	24	hr/day	24
ETres-a	Exposure Time - Resident Adult	24	hr/day	24
ETres-c,h	Exposure Time - Resident Child Hard Surface	6	hr/day	6
ETres-a,h	Exposure Time - Resident Adult Hard Surface	6	hr/day	6
ETres-c,s	Exposure Time - Resident Child Soft Surface	10	hr/day	10
ETres-a,s	Exposure Time - Resident Adult Soft Surface	10	hr/day	10
FQres-c	Frequency of Hand to Mouth - child	9.5	event/hr	9.5
FQres-a	Frequency of Hand to Mouth - adult	1	event/hr	1
FTSSh	Fraction Transferred Surface to Skin - hard surface	0.5	unitless	0.5
FTSSs	Fraction Transferred Surface to Skin - soft surface	0.1	unitless	0.1
IFDres-adj	Age-Adjusted Resident Dust Ingestion Fraction	NA		3870
k	Dissipation Rate Constant	0.38	yr^-1	0
SAres-a	Surface Area of Fingers - Resident Adult	45	cm^2	45
SAres-c	Surface Area of Fingers - Resident Child	15	cm^2	15
SE	Saliva Extraction Factor	0.5	unitless	0.5
tres	Time - resident	30	yr	30

Yellow highlighted BRPG defaults that differ from WTC defaults

WTC 2003 = World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Con

U.S. EPA 2011 = 2011 Exposure Factors Handbook

U.S. EPA 2014 = 2014 Human Health Evaluation Manual: Update of Standard Exposure Factors (OSWER Dire

nput Parameters for Dust Ingestion

2009 guidance "World Trade Center Indoor Environment Assessment:
n and Setting Health-Based Benchmarks"

Units 2007	BPRG 2020	Units	Reason for change
yrs	26	yrs	U.S. EPA 2014 (Attachment 1)
yrs	6	yrs	U.S. EPA 2014 (Attachment 1)
yrs	20	yrs	U.S. EPA 2014 (Attachment 1)
days/yr	350	days/yr	U.S. EPA 2014 (Attachment 1)
days/yr	350	days/yr	U.S. EPA 2014 (Attachment 1)
days/yr	350	days/yr	U.S. EPA 2014 (Attachment 1)
hr/day	24	hr/day	U.S. EPA 2014 (Attachment 1)
hr/day	24	hr/day	U.S. EPA 2014 (Attachment 1)
hr/day	24	hr/day	U.S. EPA 2014 (Attachment 1)
hr/day	6	hr/day	WTC 2003
hr/day	6	hr/day	WTC 2003
hr/day	10	hr/day	WTC 2003
hr/day	10	hr/day	WTC 2003
event/hr	17	event/hr	EPA 2011 Table 4.1
event/hr	3	event/hr	EPA 2011 Table 4.1
unitless	0.5	unitless	WTC 2003
unitless	0.1	unitless	WTC 2003
cm^2-year/day	3200400	cm^2	Change in units because equation was rearranged to accommodate age adjustment (compare of BPRG age adjusted ingestion of dust equation to the 2007 ingestion of dust equation). Additionally, the value for FQ was updated.
yr^-1	0	yr^-1	WTC justified site-specific dissipation rate.
cm^2	49	cm^2	EPA 2011 Table 7.2
cm^2	16	cm^2	EPA 2011 Table 7.2
unitless	0.5	unitless	
yr	26	yr	U.S. EPA 2014 (Attachment 1)

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Table
Current BPRG (2020) and California's Human an
"Recommendations for

BPRG Variable	BPRG Description	BPRG 2020	Units 2020	BPRG Ref
EDres-c	Exposure Duration - Resident Child	6	yrs	U.S. EPA 2014 (Attachment 1)
EDres-a	Exposure Duration - Resident Adult	20	yrs	U.S. EPA 2014 (Attachment 1)
EFres-c	Exposure Frequency - Resident Child	350	days/yr	U.S. EPA 2014 (Attachment 1)
EFres-a	Exposure Frequency - Resident Adult	350	days/yr	U.S. EPA 2014 (Attachment 1)
FQres-c	Frequency of Hand to Mouth - child	17	event/hr	EPA 2011 Table 4.1
FQres-a	Frequency of Hand to Mouth - adult	3	event/hr	EPA 2011 Table 4.1
SE	Saliva Extraction Factor	0.5	unitless	EPA 2011 Table 4.1
FTSSh FTSSs	Fraction Transferred Surface to Skin - hard or soft surface	0.5	unitless	WTC 2003
IFDres-adj	Age-Adjusted Resident Dust Ingestion Fraction	NA	NA	NA
		NA	NA	NA
SAres-c	Surface Area of Fingers - Resident Child	16	cm^2	EPA 2011 Table 7.2
SAres-a	Surface Area of Fingers - Resident Adult	49	cm^2	EPA 2011 Table 7.2

WTC 2003 = World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Concer
U.S. EPA 2011 = 2011 Exposure Factors Handbook
U.S. EPA 2014 = 2014 Human Health Evaluation Manual: Update of Standard Exposure Factors (OSWER Directi
Michaud, et. al. (1994).
DiBiasio, et. al. (2003)

Comparing Default Ingestion Input Parameters for Dust Ingestion
d Ecological Risk Office (HERO), Human Health Risk Assessment (HHRA) for
Evaluating Polychlorinated Biphenyls (PCBs) at Contaminated Sites in Califor

HERO HHRA Variable	HERO HHRA Description	HERO HHRA 2018	Units 2018	Reference 2018	HERO HHRA Variable
ED	Exposure Duration - student	6	yrs	conservative assumption based on years in school	ED
ED	Exposure Duration - teacher	25	yrs	conservative assumption based on years in school	ED
EF	Exposure Frequency - student	230	days/yr	conservative assumption based on length of school year	EF
EF	Exposure Frequency - teacher	230	days/yr	conservative assumption based on length of school year	EF
CF	Contact Frequency - student	6	events/day	conservative assumption based on classes per day	CF
CF	Contact Frequency - teacher	6	events/day	conservative assumption based on classes per day	CF
fdo	skin to mouth transfer efficiency	0.04	unitless	Michaud, et. al. (1994).	fdo
TE	surface to skin transfer efficiency	0.1	unitless	DiBiasio, et. al. (2003)	TE
Intake Factor	Intake Factor - student	0.014	cm^2/kg-day	calculated from other inputs	Intake Factor
Intake Factor	Intake Factor - teacher	0.044	cm^2/kg-day	calculated from other inputs	Intake Factor
CA	Surface Area of Fingers - Resident Child	372	cm^2/event	50% of the recommended surface areas for the hands and forearms on pages 7-40 and 7-41 of the Exposure Factors Handbook (USEPA 2011)	CA
CA	Surface Area of Fingers - Resident Adult	647	cm^2/event	50% of the recommended surface areas for the hands and forearms on pages 7-40 and 7-41 of the Exposure Factors Handbook (USEPA 2011)	CA

n and Setting Health-Based Benchmarks

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2018 & 2020 Note Number 8 nia"			
HERO HHRA Description	**HERO HHRA 2020**	**Units 2020**	**Reference 2020**
Exposure Duration - student	6	yrs	conservative assumption based on years in school
Exposure Duration - teacher	25	yrs	conservative assumption based on years in school
Exposure Frequency - student	230	days/yr	conservative assumption based on length of school year
Exposure Frequency - teacher	230	days/yr	conservative assumption based on length of school year
Contact Frequency - student	6	events/day	conservative assumption based on classes per day
Contact Frequency - teacher	6	events/day	conservative assumption based on classes per day
skin to mouth transfer efficiency	0.04	unitless	Michaud, et. al. (1994).
surface to skin transfer efficiency	0.1	unitless	DiBiasio, et. al. (2003)
Intake Factor - student	0.014	cm^2/kg-day	calculated from other inputs
Intake Factor - teacher	0.044	cm^2/kg-day	calculated from other inputs
Surface Area of Fingers - Resident Child	372	cm^2/event	50% of the recommended surface areas for the hands and forearms on pages 7-40 and 7-41 of the Exposure Factors Handbook (USEPA 2011)
Surface Area of Fingers - Resident Adult	647	cm^2/event	50% of the recommended surface areas for the hands and forearms on pages 7-40 and 7-41 of the Exposure Factors Handbook (USEPA 2011)

		Current BPRG "Health Risk Assessr			
BPRG Variable	**BPRG Description**	**BPRG 2020**	**Units 2020**	**BPRG Ref**	**CHPPM Parameter**
NA	NA	NA	NA	NA	Fd
NA	NA	NA	NA	NA	Ff
SE	Saliva Extraction Factor	0.5	unitless	WTC 2003	FTsm
FTss	Fraction Transferred Surface to Skin	hard surfaces = 0.5 soft surfaces = 0.1	unitless	WTC 2003	FTss
EDiw	Exposure Duration - Indoor Worker	25	yrs	U.S. EPA 2014 (Attachment 1)	ED
EFiw	Exposure Frequency - Indoor Worker	250	days/yr	U.S. EPA 2014 (Attachment 1)	EF
ETiw	Exposure Time - Indoor Worker	8	hr/day	U.S. EPA 2014 (Attachment 1)	ET

Table Comparing Default Ingestion Input Parameters for D
i (2020) and Department of Defense's (DOD) Center for Health Promotion and Prev
nent Methods and Screening Levels for Evaluating Office Worker Exposures to Co

CHPPM Definition	CHPPM Value or Equation No.	CHPPM Reference
Fraction of exposed skin surface area that actually contacts the contaminated surface (unitless)	Forearm: 1 Hand (palmar side): 0.30	Zainudin and Semple 2005 (fraction of forearm and hand surface area that actually has contact with smooth, nonporous surfaces in an office setting)
Fraction of exposed skin that contacts the mouth (unitless)	0.08	Estimated using professional judgment. The following assumptions were used to estimate the fingertip fraction of 0.08 that contacts the mouth: • Total finger area is one-half the hand area (0.5). • The joint at the distal end of the finger is one-third of each finger (0.33). • One-half of the joint at the distal end of the finger contacts the mouth (0.5).
Fraction of substance transferred from skin to mouth (unitless)	0.4	Rusin et al. (2002)
Fraction transferred from the surface to the skin (unitless)	0.063	Calculating the fraction transferred using the Brouwer et al. assumption—that the transfer surface area is similar to the exposed hand area—estimated FTss would be 6.3 percent and 0.5 percent at surface loadings of 6 µg/cm2 and 177 µg/cm2, respectively. (Note: This value is based on results reported by Brouwer et al. for six repeated contacts at a low surface loading of 6 µg/cm2.)
Exposure duration (year)	10	Based on the mass balance analysis, an ED of 10 years is recommended for evaluating office worker exposures.
Exposure frequency (days/year)	250	USEPA recommendation
Exposure time (hours/day)	8	(BLS 2007)

)ust Ingestion
/entative Medicine (CHPPM) 2009 Technical Gui
)ntaminants on Indoor Surfaces Using Surface W

CHPPM Important Notes
Fd values provided are limited to fine particles and should not be used for direct contact with liquids on the surface.
A fraction of this area that contacts the mouth during adult mouthing behaviors such as nail biting or placing the fingertips in the mouth.
The data from Rusin et al. is more representative of office worker exposures. USEPA uses Kissel et al. 1998 which accounts for a three different activities: thumb sucking, finger mouthing ("mouthing three fingers above the first knuckle"), and palm licking ("three swipes with the tongue"). These activities are not appropriate for office worker exposure.
For office workers, FTss values should reflect casual contact with the surface; therefore, experimental values derived from vigorous rubbing are probably not appropriate. In addition, although not explicitly stated, many studies focused on a crawling infant as the likely receptor. Studies designed to mimic exposures to a crawling infant applied forces not normally associated with casual surface contacts.
The mass balance analysis is assumes that the initial contamination is not the level at which a worker would be exposed for the duration of employment. (essentially, they are applying k (dissipation rate) to ED)

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Vipe Data"

CHPPM Limitations
The default FTss was selected using office worker exposure assumptions and should not be applied to other exposure scenarios without considering additional factors for those scenarios. For example, children are more likely to contact surfaces with wet hands than adults, and experimental data show moisture can increase the amount transferred from the surface to the skin.
USEPA (1991) recommends using a 95th percentile ED of 25 years, which is based on 1990 BLS data.

FQiw	Frequency of Hand to Mouth - Indoor Worker	3	events/hr	EPA 2011 Table 4.1	EVderm EVing
SAiw	Surface Area of Fingers - Indoor Worker	49	cm^2	EPA 2011 Table 7.2	SA
EDres	Exposure Duration - Resident	26	yrs	U.S. EPA 2014 (Attachment 1)	
EF	Exposure Frequency - Resident	350	days/yr	U.S. EPA 2014 (Attachment 1)	
ET	Exposure Time - Resident	24	hr/day	U.S. EPA 2014 (Attachment 1)	
FQres-a	Frequency of Hand to Mouth - adult	3	events/hr	EPA 2011 Table 4.1	
FQres-a	Frequency of Hand to Mouth - adult	3	events/hr	EPA 2011 Table 4.1	
SAres-a	Surface Area of Fingers - Resident Adult	45	cm^2	EPA 2011 Table 7.2	

WTC 2003 = World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Co
U.S. EPA 2011 = 2011 Exposure Factors Handbook
U.S. EPA 2014 = 2014 Human Health Evaluation Manual: Update of Standard Exposure Factors (OSWER Di
Zainudin and Semple (2005)
Rusin et al. (2002)
(BLS 2007)
Edwards and Lioy (1999)

Event frequency for estimating the dermal dose (events/day)	4	selected using professional judgment
Event frequency for estimating intake from incidental ingestion (events/day)	27 (fingertip/nail biting)	Zainudin and Semple (2005)
Exposed skin surface area per event (cm2)	Forearms: 873 Hands (palmar side): 326	Forearm surface areas were obtained from the Exposure Factors Handbook (USEPA 1997c). Palmar surface areas (wrist crease to fingertips) were obtained from the open literature Edwards and Lioy (1999). (Value was doubled to account for SA on both hands)

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The default value should not be used for exposure scenarios that are significantly different from these considerations. (i.e. office workers)
For the purposes of estimating office worker exposure from incidental ingestion, Zainudin's observation of 3.4 hand-to-perioral area contacts per hour was used to estimate EVing for fingertip/fingernail biting habits. Multiplying this by a typical 8-hour workday results in a total EVing of 27 events/day.
As the Exposure Factors Handbook provides only whole forearm surface area values, an adjustment factor of 66.7 percent, or two-thirds of the whole forearm surface area, was used to modify the forearm surface area. This adjustment factor accounts for the underside of the forearm as well as the "spread-out" effect of the arm when it is laid on a flat surface. As discussed in paragraph 9.1, residents are expected to have a larger exposed skin area available for contact with surfaces than office workers.

Examples are computer work (includes typing, working in front of the computer); talking on the phone; and working at a desk away from the computer (for example, writing, reading, attending meetings). When a break occurs, an activity is considered a new event even when the office worker resumes the same activity.

Paragraph 9.1: Residents are more likely to come in contact with a greater variety of indoor surfaces and from different parts of the home. In addition, due to the more relaxed atmosphere of a home as compared to that of an office, residents of a home tend to dress more casually, resulting in a greater skin surface area available for contact. Residents are also more apt to engage in activities that involve direct contact with floor surfaces. Some examples include walking barefooted or sitting on the floor. This is especially true of children and infants, with the latter group spending most of their time close to the floor.

Table Compari

Current BPRG (2020) and California's Office of Enviro

"Assessment of Children's Exposure to Surface Methamphetamine Re

BPRG Variable	BPRG Description	BPRG 2020	Units 2020
NA	NA	NA	NA
NA	NA	NA	NA
FQres-c	Frequency of Hand to Mouth - child	17	event/hr
FQres-a	Frequency of Hand to Mouth - adult	3	event/hr
SE	Saliva Extraction Factor	0.5	unitless
FTSSh FTSSs	Fraction Transferred Surface to Skin - hard or soft surface	0.5 0.1	unitless
IFDres-adj	Age-Adjusted Resident Dust Ingestion Fraction	3200400	cm^2
SAres-c SAres-a	Surface Area of Fingers - Resident Child & Resident Adult	16 49	cm^2

WTC 2003 = World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Co

U.S. EPA 2011 = 2011 Exposure Factors Handbook

U.S. EPA 2014 = 2014 Human Health Evaluation Manual: Update of Standard Exposure Factors (OSWER Di

OEHHA 2009 = Assessment of Children's Exposure to Surface Methamphetamine Residues in Former Clan

Glen/Smith = A probabilistic arsenic exposure assessment for children who contact CCA-treated playsets a

Kissel et al. 1998 = same reference used by BPRG and WTC.

U.S. EPA 2005 = A Probabilistic Exposure Assessment for Children who Contact CCA-Treated Playsets and

ing Default Ingestion Input Parameters for Dust Ingestion

nmental Health Hazard Assessment (OEHHA) Environmental Protection Age

esidues in Former Clandestine Methamphetamine Labs, and Identification of

Surface Methamphetamine Contamination"

BPRG Ref	OEHHA Variable	OEHHA Description
NA	contacth	Hand-surface fractional contact rate
NA	contactb	Body-surface fractional contact rate
EPA 2011 Table 4.1	hm_freq	Hand mouthing events per hour
EPA 2011 Table 4.1		
EPA 2011 Table 4.1	remv_mouth	Removal efficiency during mouthing (skin-to-mouth only)
WTC 2003	transfer_dermal	Residue-skin transfer efficiency
calculated based on WTC 2003 equation	ingestion_indoor	Dust ingestion rate (indoor, direct only)
EPA 2011 Table 7.2	hm_fraction	Fraction of surface of one hand that enters mouth

ncern and Setting Health-Based Benchmarks

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destine Methamphetamine Labs, and Identification of a Risk-Based Cleanup Standard for Surface Methampheta

and decks, Part 1: Model methodology, variability results, and model evaluation

Decks. Using the Stochastic Human Exposure and Dose Simulation Model for the Wood Preservative Exposure Sc

ncy 2009 Guidance
a Risk-Based Cleanup Standard for

OEHHA 2018	Units 2018	Reference 2018
6	hr^-1	OEHHA 2009
6	hr^-1	OEHHA 2009
Range 1-18	event/hr	OEHHA 2009
0.3	unitless	mean of Kissel et al. (1998) min= 0.1, max-0.5
0.6 - 8.4	unitless	references from Glen/Smith (12/15/06)
1	mg/hr	U.S. EPA 2005 Table 10
0.78	unitless	OEHHA 2009

mine Contamination

enario (SHEDS-Wood). Final Report.

Table Comparing Default Ingesti
Current BPRG (2020) and EPA Office
"Standard Operating Procedures for R

BPRG Variable	BPRG Description	BPRG 2020	BPRG Units	BPRG Reference
ETres-c,h	Exposure Time - Resident Child Hard Surface	6	hr/day	WTC 2003
ETres-c,s	Exposure Time - Resident Child Soft Surface	10	hr/day	WTC 2003
FQres-c	Frequency of Hand to Mouth - child	17	event/hr	EPA 2011 Table 4.1
FTSSh	Fraction Transferred Surface to Skin - hard surface	0.5	unitless	WTC 2003
FTSSs	Fraction Transferred Surface to Skin - soft surface	0.1	unitless	WTC 2003
SAres-c	Surface Area of Fingers - Resident Child	16	cm^2	EPA 2011 Table 7.2
SE	Saliva Extraction Factor	0.5	unitless	EPA 2011 Table 4.1
	NA	NA	NA	NA

Yellow highlighted BRPG defaults that differ from WTC defaults

WTC 2003 = World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Concern an

U.S. EPA 2011 = 2011 Exposure Factors Handbook

U.S. EPA 2014 = 2014 Human Health Evaluation Manual: Update of Standard Exposure Factors (OSWER Directive 92

Xue et al. (2007) = A Meta-Analysis of Children's Hand-to-Mouth Frequency Data for Estimating Nondietary Ingestic

Krieger, 2000 = Biomonitoring and Whole Body Cotton Dosimetry to Estimate Potential Human Dermal Exposure to

Camann et al. (1996) = Comparison of Methods to Determine Dislodgeable Residue Transfer from Floors (EPA/600/

Zartarian et al. (2005). = A Probabilistic Exposure Assessment for Children Who Contact CCA-treated Playsets and D

Selim, 2004 = Measurement of Transfer of Deltamethrin Residues from Vinyl and Carpet flooring Treated with a Fo

on Input Parameters for Dust Ingestion

of Pesticide Programs (OPP) 2012 guidance

esidential Pesticide Exposure Assessment"

OPP Variable	OPP Description	OPP 2020	OPP Units
ET	Exposure time	2	hr/day
ET	Exposure time	4	hr/day
Freq_HtM	Hand-to-mouth events per hour	20	event/hr
Fai-hands	Fraction of ai on hands	0.15	unitless
SAH	Surface area of one hand	150	cm^2
SE	Saliva Extraction Factor	0.48	unitless
Fm	Fraction of hand mouthed per event	0.13	fraction/event

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on Exposure. Risk Analysis, 27(2):411-420.

Semivolatile Chemicals. J. Exposure Analysis & Environ. Epidemiol. 10: 50-57.

'R96/089) United States Environmental Protection Agency, Research Triangle Park, NC.

ecks Using the Stochastic Human Exposure and Dose Simulation Model for the Wood P

gger Formulation Following a Single Hand Press. Unpublished study prepared by Non-D

OPP Reference
EPA, 2011; Tables 16-15 and 16-25
EPA, 2011; Tables 16-15 and 16-25
Xue et al. (2007)
Krieger, 2000 and Selim, 2004
U.S. EPA, 2011; Table 7-2
Camann et al. (1996)
Zartarian et al. (2005).

reservative Scenario (SHEDS-WOOD).
ietary Exposure Task Force. (MRID